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Evolving Trends in Health Education¹

GEORGE ROSEN,² M.D., Ph.D.

FROM the very earliest times, the promotion of health, the prevention of illness, and the preservation of life have been matters of importance to men as individuals or as members of groups. Among the Greeks as well as among other peoples, there was a general assumption that if healers knew enough, and men adhered to hygienic modes of life, human beings could attain long life. Man had a good chance of escaping disease if he lived reasonably, that is, according to certain accepted knowledge. Implied in this view is the idea that these laws and their consequences for behaviour can be taught, and that human beings can, in large measure, be made responsible for their health (1).

An old Attic drinking song declared that "Health is the first good lent to men." The Greek poet Ariphron praised "Health, eldest of the Gods" with whom he wanted to dwell for the rest of his life. To the Greeks health was a condition, a state of being in which the various forces or elements constituting the human body were perfectly balanced. Disturbed equilibrium produced disease. It was important, therefore, to maintain a mode of life in which such disturbances might be reduced to a minimum. Since the balance could easily be upset by external elements, such as climate or food, a great deal of attention was given to the influence of physical and nutritional factors on the human body. The ideal mode of life, according to the physicians, was one in which nutrition and excretion, exercise and rest were harmoniously balanced. In addition, for each individual, account had to be taken of age, sex, constitution, and the seasons. In essence, one's whole life had to be organized for this purpose. Very few people, however, could afford to lead such a life. This was a regimen for a small upper class leading a life of leisure; it was an aristocratic hygiene. The mass of the people, said the

¹Presented at the 52nd annual meeting of the Canadian Public Health Association, Regina, Saskatchewan, June 6-8, 1961.

²Professor of Health Education, Columbia University School of Public Health and Administrative Medicine, New York City, and Editor, *American Journal of Public Health*.

writer of the Hippocratic book, *On Diet*, "by necessity must lead a haphazard life and . . . neglecting all, cannot take care of their health".

In taking over the culture of the Greeks, the Romans also accepted their hygienic views but they broadened them. The famous Roman baths placed personal hygiene on the daily agenda and made it available to the humblest Roman. Writers on health were concerned with special age groups, from the very young to the aged. Galen, for example, wrote a treatise on hygiene in which a whole section is devoted to the health needs of old age.

Based as it had been on an urban culture, the hygiene of the Greco-Roman world declined to a considerable degree with the disintegration of the Empire, especially in the West. But the loss was not complete. Enough of the ancient hygienic knowledge survived so that the medieval culture of Europe had a base on which to build, and from which it would move forward to an even more significant contribution.

Medieval man was far more occupied with the care of the body than one might imagine. While there was general acknowledgement of the vanity of earthly existence and a belief in punishment or salvation in the next world, the conviction was also held that by means of a correct regimen one could complete the allotted life span of three score and ten. This need gave rise to a whole literature on the preservation of health. Basically, this literature was derived from classical sources. During the early medieval period such writings were scanty but still common enough to supply rules of conduct for those who sought them. The monastic orders had regulations covering personal hygiene and it is likely that the influence of the monastic rules penetrated the ranks of the laity.

As a rule, the medieval treatise on hygiene was addressed to a person of high rank advising him how to live in order to remain healthy. From the twelfth to the fifteenth centuries, a large number of such books were written in Latin or in various vernaculars. The best known work of this type is undoubtedly the *Regimen sanitatis Salernitanum* (the Salernitan Regimen of Health), which probably originated during the twelfth century and was published in England, Italy, France and Germany as late as the middle of the nineteenth century. This didactic poem and its literary successors, the popular health books and almanacs which flooded the European countries soon after the beginning of printing, treated every detail of daily life, and indicated how to care for every part of the body. These *regimina sanitatis* were gobbled up by the bourgeoisie, the burghers and artisans of the towns and cities.

A considerable portion of this health literature was not in book form, but was printed as fugitive sheets. Many of these carried crude anatomical illustrations which were not based on dissections but were copied from Arabic or Persian prototypes. Bleeding, purging and cupping were considered necessary for the maintenance of one's health. These procedures were carried out by barbers and bath attendants. Almanacs, bleeding notices and bleeding letters informed the public of the best time for blood letting. The fugitive sheets were intended to disseminate information among the people as well as to instruct barbers and surgeons. They were relatively small in size, about 14 inches square, and obviously were easily perishable. These fugitive sheets are in a way the forerunners of our posters, leaflets and pamphlets. Toward the end of the fifteenth cen-

tury there appeared an increasing number of books with illustrated texts, intended partly or entirely for the lay public. People also liked to go to the fairs which were popular in commercial cities, or in local trading centres. There too they might increase their knowledge for good or ill from itinerant peddlers of medicines, tooth drawers, and the like.

The didactic impulse of the medieval period and the Renaissance was further strengthened during the Enlightenment. There was an eager endeavour to enlighten the people in matters of health and hygiene. This movement was international in scope, and while it was adapted to suit local circumstances, its central characteristics were more or less the same in all countries—everywhere the same appeal to reason coupled with a belief in progress and perfectibility. Numerous home medical guides were published. One of the most popular was William Buchan's *Domestic Medicine; or The Family Physician*, which first appeared in 1769 and then passed through 19 editions. Buchan was a Scotsman, but his work was translated into German, and also enjoyed wide popularity in the United States. Another popular work was B. C. Faust's *Gesundheitskatechismus*, published in 1794. One hundred and fifty thousand copies were sold, and it was translated into numerous languages including Latvian. One could mention numerous others, but it is not necessary. They all exhibit similar features.

Despite the earnest conviction, humanitarian devotion, and evangelical enthusiasm that these apostles of health brought to this enterprise, it could be successful only to a small degree. For one thing, the spread of health knowledge did not, and could not as yet, concern large masses in town and country. Scrutiny of the social context of the Enlightenment reveals it as a middle class movement. The advocates of health education addressed themselves for the most part to the upper and middle classes, hardly at all to the peasants and unskilled workers. Furthermore, the humanitarianism of the Enlightenment was tough-minded, sentimental and Utopian, at one and the same time. For example, John Ferriar, in Manchester, told the poor "to avoid living in damp cellars", overlooking the fact that most of them could hardly afford anything better. Nonetheless, these early efforts at health education are important because they helped to prepare the way for the health campaigns of the middle and late nineteenth century. Indeed, in this sense, there is virtually no break in the continuity of health education efforts up to the present.

At this point, a consideration of the characteristics of health education in these earlier periods is in order. First of all, it was based on authority and tradition. Its sources were the classical medical authors, empirical knowledge and folklore. Secondly, it was closely linked to the literacy of the population. As more people learned to read, more health literature was produced for them. The counterparts of Spock and Gesell, for example, are to be found from Plutarch to Sir Thomas Elyot, John Locke, Hugh Smith and Jean Jacques Rousseau. Furthermore, the audience for health literature was affected by the rise of new social and political orders, for example, the middle class (2). Books, manuals and articles in periodicals on child rearing were read for guidance by upper and middle class parents in the eighteenth and nineteenth centuries, and this trend has widened to include working class parents. Moreover, the appearance of a free-floating intelligentsia provided those who might turn to such journalistic endeavours. Finally, except for

the need to deal with epidemics, health education was not concerned with the community as a whole. Health education was directed to the individual or the family. Indeed, there was no great need for anything else, and it is illuminating that such activity only arose slowly during the nineteenth century, becoming increasingly prominent in our day.

The eighteenth century already saw endeavours to project hygiene from a personal to a public plane. This effort is strikingly illustrated by the investigations of John Howard in the course of which he laid bare the appalling condition of English prisons. Howard's investigations in many respects anticipate and are prototypical of the work of the sanitary reformers of the nineteenth century. Through his revelations of the connection between jails and jail fever, Howard aroused public opinion, and made possible improved conditions. He thus showed that people are galvanized into action when facts about social disease are made available to them, and that an aroused and informed public opinion could be a lever for social reform.

The sanitary reform movement of the nineteenth century brought this element into the area we call health education. Among the objectives of the organizations dedicated to sanitary reform were the dissemination of knowledge of urban conditions and the organization of public opinion in support of legislative action for improved public health. Characteristic is the Health of Towns Association founded in 1844 by Southwood Smith. These groups created a pattern of action involving the enlightenment and molding of public opinion as well as an endeavour to attract the attention of government to achieve remedial legislation. This approach to health problems was used by public health workers throughout the nineteenth century, and remains today an integral part of community action for better health.

Endeavours to impart health information and guidance continued along lines similar to those described so far, even when the sanitary reform movement began to achieve some of its objectives. When health departments were established they carried out such activities from time to time. The New York City Health Department, for example, distributed leaflets on infant care and diphtheria in 1874 and on tuberculosis in 1897. At the same time, there were other even more significant influences that led to the development of health education as it exists in the United States today. On the one hand there was the movement that led to school health education. Through the 1880's and early 1890's a child study movement developed among educators, which endeavoured to understand the needs of children. This was coupled eventually with the teaching of physiology and hygiene when the latter was made mandatory around 1880 as a result of a powerful propaganda movement sponsored by temperance interests. The basic purpose of this legislation was to require instruction on the effects of alcohol and narcotics, but most of these laws were so worded that this instruction became part of a broader teaching program.

As the modern public health movement developed in response to the problems created by an industrial, urban civilization, public health education assumed an increasingly prominent place. In the United States, leadership in health education of the public was first assumed by voluntary health agencies as part of their efforts to control specific diseases or to deal with particular health problems.

The trail-blazer was the anti-tuberculosis movement. The major emphasis in these endeavours was on the presentation of facts by means of techniques developed in the fields of advertising and publicity. John S. Fulton assembled the first tuberculosis exhibit in Baltimore in 1904. Owing to the attention it attracted, the National Association for the Study and Prevention of Tuberculosis developed a number of exhibits which were placed under Evart G. Routzahn. Intended primarily to arouse public interest, the exhibits did this in a most direct and often crude manner. Tuberculous lungs, photographs of decrepit and unsanitary tenements, were presented visually in the belief that they would prove the most compelling of arguments and that the public would become interested, impressed and convinced. Other means employed in the anti-tuberculosis campaign were newspaper publicity, leaflets and pamphlets, health talks and lantern slides. Later the motion picture was added to this armamentarium. Since then other important technical means of communication, radio and television, have been introduced.

The first health talk over the radio in the United States was apparently given by Dr. Charles A. Powers, President of the American Society for the Control of Cancer in November, 1921. On December 6, 1921, the U.S. Public Health Service began weekly health broadcasts, from the naval observatory station at Arlington, Virginia. The second official health agency to give regular health programs was the New York State Health Department. On March 24, 1922, a talk on "Keeping Well" was broadcast from the General Electric station in Schenectady, New York. In the early 1920's, the New York Tuberculosis and Health Association extended its lecture program into the new field of radio under the direction of Dr. Iago Galdston. Other official and voluntary health agencies followed these pioneers and today the radio is an accepted medium for mass communication in the health field.

During the second decade of this century, health departments intensified their educational activities and put them on an organized basis. A weekly bulletin intended for the public began to be published in 1911 by the Chicago Health Department. It was widely distributed in churches and schools. In 1914, the New York City Health Department organized the first bureau for health education in an official agency, and the same year witnessed the creation of a similar unit in the New York State Health Department. By 1929, 52 municipal and 35 state health departments were publishing bulletins on health subjects, generally on a monthly basis, and a few had full-time directors of health education.

The first World War greatly accelerated the evolution of public health education and set the stage for its growth. Wartime needs, especially the necessity to control venereal disease in the American armed forces, led to increased emphasis on keeping fit as a patriotic duty. Neighbourhood organizations and community councils made health a dominant concern. At the same time, continuing progress in the field of child health led to the first steps to differentiate health education as the most recent of the public health specialties. The term "health education" was first proposed in 1919 at a conference called by the Child Health Organization, and the following year this agency offered its first fellowship in health education. Furthermore, by 1922 the number of workers in public health agencies concerned with health education had become great enough to form a separate

section in the American Public Health Association. Very few of these workers, however, gave their full time to health education activity, nor did they have any specialized training to equip them for this work. These pioneers were recruited from a number of health fields as well as related professions: medicine, nursing, teaching, publicity and others.

In 1942, when the Subcommittee on Local Health Units of the American Public Health Association made its survey, only 13 states reported health educators employed by state and local health departments. These 13 had a total of 44 workers. Meanwhile, a number of persons had been concerned with the training of health educators, and had moved to create curricula for students in this special field. In 1943, programs for the training of health educators began to be set up in schools of public health, and the number of health educators with formal academic training increased rapidly. By 1947, there were 300 persons employed as health educators in official and voluntary health organizations who had completed graduate courses in recognized schools of public health. By 1951 the Society of Public Health Educators was formed as the group's professional organization.

Coincident with these developments, there have been changes in the objectives of health education. It has been recognized that it is not enough simply to present information; what counts is whether and how, this knowledge is applied. Furthermore, it has been realized that the community is an organized structure, and that in health education, as in other health work, a co-ordinated program is needed which will touch each segment of the community in accordance with its nature and its needs. Finally, it is accepted in principle that when the members of a community have a chance to learn about their health problems and how they might deal with them, they will do so, but this was obscured during the early decades of the century by an excessive emphasis on tools and techniques.

Pioneer endeavours toward better community organization for health education were undertaken in a few cities, notably New York and Boston, in connection with the development of district health centers. In 1938, however, a community-wide program was initiated in Hartford, Connecticut, which attracted national attention. This program, under the direction of Lucy Morgan, endeavoured to enlist the entire community in a unified program of study and action. This was followed in 1941 by a report prepared by a committee of the American Public Health Association, on *Community Organization for Health Education*, which has had a wide influence. Community organization is today an important element of the health education program in the United States, although more recently the limitations of the earlier approach have begun to be recognized (3).

This recognition has been the result of another trend of fundamental significance, namely, that health education is concerned ultimately with the process of social change, that it is concerned basically with human behaviour and its alteration for the improvement and promotion of individual and community health and that in consequence the health educator and others concerned with health education must turn to the social sciences for a better understanding of how to work with people individually or in groups (4). At the same time, health educators have become more critical of their activities and have begun to subject them to analysis and evaluation using methods and tools developed in the social sciences.

This trend is only in its beginning, but there can be little doubt that as knowledge of individual and group behaviour becomes more precise, the health educator and the other health workers—the physician, the nurse, the sanitarian, the nutritionist and others—will be able to deal with their educational tasks in a more effective manner.

What can be said of modern health education in the light of the trends and forces that have brought us to our present situation?

First of all, education for health occurs on various levels—individual and group. The former, personal health education, is ancient and has persisted in unbroken line from the earliest times to the present. Even the knowledge with which modern health education is concerned is ancient in some instances. Today, as in the past health information and guidance is provided on a personal basis, and there is once again increasing recognition of the importance of this approach. It may be noted that health workers who were not bemused by the attractions of the mass media applied the personal approach even in earlier years. An interesting example is the creation of Little Mothers Leagues by Dr. S. Josephine Baker to foster the cause of child health (5).

Secondly, education for health has for a long time been highly rationalistic. The idea that people would recognize the truth if the facts were presented to them, and draw the necessary conclusions for action, was originally a part of the theory of public opinion in a democracy. And this theory was applied to health education. The facts, however, were to be handed down from above. It should not be overlooked that health education in its various facets reflected and still reflects largely middle class values and orientations (6).

These characteristics are closely linked to another facet of modern health education, especially in the United States. Mass health education developed in large measure in response to the needs of health agencies, particularly the voluntary agencies. Especially in the first decades of the twentieth century, health education to a considerable degree was also the publicity and advertising arm of the health agencies. Both official and voluntary agencies endeavoured to enlist support in the larger community for their objectives by engaging in educational activities. In addition, the voluntary agencies endeavoured to raise funds by these means. It is not surprising therefore that so much emphasis was placed on advertising techniques and mass media of communication. The latter seemed to be successful in the field of commerce; why should they not work as well for health agencies?

Finally, it should be clear that trends in the current health education scene reflect developments and ongoing changes in the society of which it is a part. Only one need be mentioned in illustration. In a community comprising many secondary groups and presenting a high degree of specialization, health can be a focus for social integration, and there is evidence that this may be one function of health education (7).

What this amounts to is the need to recognize that modern health education is complex, as much a social product as the people and agencies it is intended to affect. It cannot be seen in the simplistic terms of "human engineering", "prediction and control of human behaviour", or any of the other slogans that achieve fleeting prominence and vanish into limbo. There are limitations based on know-

ledge which will undoubtedly disappear, but others are due to social organization. These too will change, but not always as a result of planned action on the part of health workers. Recognition that we operate in a given historical and social context should not, however, deter us from carrying on; indeed, it may even help us to do better by enabling us to locate the possible and to determine where change is needed to achieve what is not possible.

Health laws and regulations have been set up to safeguard individual and community health. Protective measures such as immunizations, health examinations, control of the environment are now recognized parts of individual and/or community health programs. But such measures can have maximum value only when those for whom they are intended co-operate intelligently in their use. Obviously, the point is to get people to recognize health problems where they exist, and to help them understand why action is or is not indicated. In this sense, health education is a key to effective individual and community action for improved health.

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A GOOD RESOLUTION FOR 1962

By paying my 1962 C.P.H.A. membership NOW in the provincial and national associations, I will be doing my part and save the secretary writing again. I can find my provincial treasurer's address on the last page of this issue.

HAPPY NEW YEAR!

The Alberta Rheumatic Fever Prophylaxis Program¹

M. G. McCALLUM,² M.D.

THE Government of Alberta in 1958 implemented oral prophylactic chemotherapy for children, up to 18 years of age, who had suffered one or more attacks of rheumatic fever. After careful consideration it was determined that the program should be province-wide, should function through the Division of Medical Services of the Department of Public Health, and under the direction of a medical advisory committee composed of an internist, a pediatrician and a cardiologist, with the Director of Medical Services as the executive officer.

The committee agreed that 200,000 units of Penicillin G given twice daily would be adequate dosage and that certain criteria (Jones' Criteria as modified in 1955) be used in diagnosis. Treatment was to be initiated on the submission of an application form by the child's doctor and a member of the committee was to screen all applications. Once implemented the prophylaxis was to be continued until the 18th birthday or until discontinued by the child's physician. It was decided that to be eligible for continued free medication the child must be seen by his doctor at least every six months. The doctor must, at each visit, complete a renewal application form. A circular letter was sent to all doctors in the province early in June 1958 and the prophylactic program became operative at the end of that month.

A doctor desirous of obtaining the benefits of the rheumatic fever prophylactic program for his patient is requested to complete the "Initial Application Form for Penicillin" which constitutes the patient's initial history for statistical and diagnostic purposes as well as being the application for prophylactic penicillin.

The following data are required:

- Child's name and birth date.
- Parents' name and address.
- Number of children in household.
- Date of initial onset of rheumatic fever, number of recurrences, and date of last recurrence.
- Was chemoprophylaxis used, and if so, was it penicillin or sulpha?
- Diagnostic criteria based on Jones' Criteria-modified September, 1955.
- Current diagnosis: (a) active or inactive rheumatic fever, (b) cardiac involvement or otherwise and where involvement occurs, the specific cardiac lesion.

For the case to be eligible for the benefits of this program the completed form must indicate two major or one major and two minor criteria.

¹Presented at the annual meeting of the Canadian Public Health Association held in Regina, Sask., June 6-8, 1961.

²Deputy Minister of Public Health, Edmonton, Alberta.

The completed application form, signed by the doctor, is screened by a member of the committee (almost invariably an internist). Upon approval, the doctor is notified and a three months' supply of penicillin is forwarded direct to the patient, who at the same time is informed by letter how to request a second supply by mail when the first is depleted. With the second supply a "Renewal Application Form for Penicillin" is enclosed, with directions to the patient to report to his doctor for checking and to complete the form requesting a further penicillin supply at the end of the six-month period. This is repeated every six months. This form requests relevant information on history during the six-month period. This includes:

- Utilization or non-utilization of penicillin.
- Regularity or irregularity of utilization.
- If penicillin not taken, the reasons: i.e., reaction, type of reaction, patient's decision, doctor's or nurse's orders.
- Occurrence of febrile upper respiratory infections or not.
- If occurring, did the doctor consider it streptococcal or non-streptococcal in nature?
- Any recurrence of rheumatic fever and, if so, what diagnostic criteria were present?

Local health departments are provided with the names and addresses of all cases approved for chemoprophylaxis and the medical officers of health check on problem cases for the department.

Where sensitivity to penicillin is found a triple sulphonamide preparation is made available for prophylaxis.

As a result of the foregoing procedures the Division of Medical Services receives a progress report on each case every six months. By this means sensitivity reactions and intercurrent infections are recorded.

THE PROPHYLACTIC PROGRAM

The program has been functioning since July 1, 1958. The children accepted for inclusion in the program during the first two and one-half years numbered 1,318. The distribution in years and sex was as follows:

Year	Male	Female	Total
1958 (6 months)	250	245	495
1959	217	213	430
1960	204	189	393
	671	647	1,318

During the first four months of 1961, 148 children were added.

Of the 1,318 children 50.91% were male and 49.09% were female. The average age at onset of disease was 8.6 years with no significant difference between the sexes. In regard to the distribution by percentages and age in years at onset of the disease, 12% of cases developed rheumatic fever at the age of 7 years and 77.4% of cases occurred between 5 and 12 years of age (Figure 1).

In the implementation of a chemoprophylactic program there is considerable divergence in the ages of children eligible for inclusion. There is likewise a

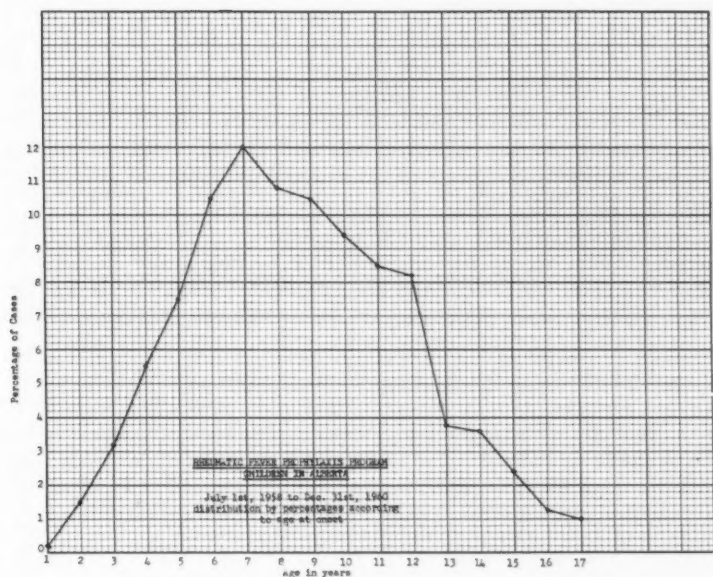


FIGURE 1: Distribution of cases by percentages according to age at onset.

divergence in the intervals between the dates of onset and the dates of inclusion. As this program progresses, the onset and the inclusion dates tend to converge thus shortening the interval and thereby decreasing the number of recurrences during that period.

Table I illustrates the number of cases in relation to the interval in months between the onset of rheumatic fever and the inclusion in the program by calendar years. It will be noted that in 1958, 12.7% of the cases were included within

TABLE I—PROPHYLACTIC PROGRAM ONSET-INCLUSION INTERVALS
BY CASES AND PERCENTAGES,
JULY 1, 1958-APRIL 30, 1961

Interval in months	1958 (6 months)		1959		1960		1961 (4 months)	
	Cases	%	Cases	%	Cases	%	Cases	%
3 months	62	12.7	174	40.9	225	58.4	77	54.6
6 months	51	10.4	40	9.4	47	12.2	19	13.5
9 months	47	9.6	19	4.5	22	5.8	5	3.5
12 months	24	5.0	11	2.6	7	1.8	4	2.8
24 months	93	19.0	35	8.2	17	4.4	14	10.0
36 months	53	10.8	22	5.2	9	2.3	4	2.8
over 36 months	159	32.5	124	29.2	58	15.1	18	12.8
Total known onset	489	100.00	425	100.0	385	100.0	141	100.0
Unknown onset	6		5		8		7	
Total	495		430		393		148	

three months and 32.5% after the three-year period while in 1961 the percentages were 54.6% and 12.8% respectively.

Table II, using the same cases and intervals as Table I, indicates the number of recurrences of rheumatic fever attacks between onset of the disease and inclusion in the program. As can be expected, as the onset-inclusion interval diminishes the percentage of recurrences decreases, with the result that in 1958, 39.2% of the cases included had had recurrences while only 20.2% had had recurrences in 1961.

Table III shows the number of recurrences per case prior to inclusion in the prophylactic program. It will be seen that there is considerable diminution in recurrences per case, and cases with no recurrences whatever are markedly increased in the latter years. This again is due to shortening the onset-inclusion interval.

Table IV illustrates the types of rheumatic heart disease and numbers of each type occurring prior to inclusion in the program. The main point of interest in this table is that the percentage of no cardiac involvement remained constant from July 1, 1958 to April 30, 1961, even though previous tables showed a

TABLE II—PROPHYLACTIC PROGRAM ONSET-INCLUSION INTERVALS
BY CASES, RECURRENCES AND PERCENTAGES,
JULY 1, 1958-APRIL 30, 1961

Interval in months	1958 (6 months)			1959			1960			1961 (4 months)		
	Cases	Recurrences	%	Cases	Recurrences	%	Cases	Recurrences	%	Cases	Recurrences	%
3 months	62			174			225			77		
6 months	51	29	15.8	40	28	11.5	47	24	8.0	19	10	9.5
9 months	47			19			22			5		
12 months	24			11			7			4		
24 months	93	60	41.1	35	34	59.6	17	11	42.3	14	9	50.0
36 months	53			22			9			4		
over 36 months	159	103	64.8	124	82	66.1	58	42	72.4	18	8	44.4
Total known onset	489	192	39.3	425	144	33.9	385	77	20.0	141	27	19.1
Unknown onset	6	2		5	3		8	3		7	3	
Total	495	194	39.2	430	147	34.2	393	80	20.4	148	30	20.3

TABLE III—PROPHYLACTIC PROGRAM
CASES AND NUMBERS OF RECURRENCES PRIOR TO INCLUSION
JULY 1, 1958-APRIL 30, 1961

		Number of recurrences							
	Cases	No recurrences	1	2	3	4	5	6	Not known
1958									
(6 months)	495	293	76	59	39	7	5	10	6
1959	430	281	64	43	23	5	3	9	2
1960	393	310	45	21	6	8	2	—	1
(4 months)									
1961 (4 months)	148	113	19	4	6	—	—	—	6
Total	1466	997	204	127	74	20	10	19	15

year to year changing onset-inclusion period and numbers of recurrences. The mitral lesion either alone or with other lesions appears as the most frequent.

TABLE IV—PROPHYLACTIC PROGRAM
TYPE OF RHEUMATIC HEART DISEASE PRIOR TO INCLUSION
JULY 1, 1958–APRIL 30, 1961

Type of rheumatic heart disease	1958		1959		1960		1961	
	Cases	%	Cases	%	Cases	%	Cases	%
<i>Mitral Lesion Only:</i>								
Stenosis	51		52		35		14	
Incompetence	85		70		86		21	
Stenosis with Incompetence	10	29.5	7	30.0	4	31.8	2	25.0
<i>Aortic Lesion Only:</i>								
Stenosis	2		4		2		3	
Incompetence	4		1		3		3	
Stenosis with Incompetence	1	1.4	—	1.2	—	1.3	—	4.0
Mitral and aortic lesions	30	6.0	13	3.0	11	2.8	4	2.7
Mitral and other lesions	9	1.8	3	.7	—	—	1	.7
Aortic and other lesions	1	.2	—	—	—	—	—	—
Other lesion only	8	1.6	6	1.4	5	1.3	5	3.4
Suspected rheumatic heart disease	82	16.6	86	20.0	59	15.0	28	18.9
No cardiac involvement	177	35.8	143	33.2	132	33.6	53	35.8
Not known	35	7.1	45	10.5	56	14.2	14	9.5
Total	495	100.0	430	100.0	393	100.0	148	100.0

One of the main objects of the rheumatic fever prophylaxis program was to prevent recurring attacks of rheumatic fever by means of chemoprophylactic medication, thereby reducing cardiac damage. The renewal application every six months provides a basis of listing recurrences at six-month intervals and the specific listing of criteria. In 1959, 1960, and 1961, 28, 30, and 12 recurrences were reported, a total of 70. In the recurrences such criteria as sedimentation rate, tachycardia, fever or arthralgia, unless associated with chorea, are not compatible with classic rheumatic fever except when confirmed with an A.S.O. titre. Of the recurrences listed approximately one-third of these met those requirements and the remainder were exceedingly questionable. Further investigation will be required in these instances for study purposes.

Discontinuance of Prophylactic Treatment

By December 31, 1960 after two and one-half years of the program a loss of 170 cases had occurred. Of this 170, 61 had been removed due to having reached their 18th birthday which is the age limit of the program. The remaining 109 cases discontinued the penicillin prophylaxis by personal decision, by doctor's orders, or through leaving the province.

Summary

The rheumatic fever prophylaxis program appears to be reaching a very high percentage of children with rheumatic fever in the province. As the program continues, a very large proportion of cases are being included soon after the acute attack. As there was no control program instituted for comparative purposes, it is impossible to make a comparative study at present.

Medical Care in Wheatville¹

ROBIN F. BADGLEY,² Ph.D. and ROBERT W. HETHERINGTON,² B.A.

PATTERNS of general practice have been studied extensively in several countries by investigators such as Taylor (1), Martin (2), and Logan (3) in Great Britain, Peterson (4) and Makover (5) in the United States, and recently in Canada by Clute. The purpose of this survey is not to set new goals, but rather to determine if the findings of the surveys done elsewhere are valid in a new setting.

Since this survey will be repeated during the next few years, it will provide an index of change in the provision of health services. Such an assessment is particularly pertinent in Saskatchewan since the present provincial government proposes shortly to introduce a scheme of prepaid universal medical care. The results of this survey will provide for one community a "before" and "after" measure of some of the effects of such a scheme.

The major goal of this survey is aptly expressed in the words of a classic study of medical care, *The Fundamentals of Good Medical Care* published in 1933 by Lee and Jones.

"Good medical care implies the application of all the necessary services of modern, scientific medicine to the needs of all the people. Judged from the viewpoint of society as a whole, the qualitative aspects of medical care cannot be dissociated from the quantitative. No matter what the perfection of technique in the treatment of one individual case, medicine does not fulfill its functions adequately until the same perfection is within the reach of all individuals. . . ." (6)

The above quotation has at least three implications for research. These are: 1. How do clients and patients evaluate and utilize medical personnel and health facilities? 2. What is the quality or degree of technical excellence of the medical services rendered? 3. What is the quantitative distribution of medical services and personnel for a specified population?

Although the information which has been collected focusses on these three goals, in this paper only some of the findings dealing with the third goal will be presented. Specifically, this analysis deals with the quantitative distribution of the work of the local public health nurse and physicians.

METHODOLOGY

Wheatville is the pseudonym for the town where this study was conducted. Wheatville was not selected because it was a "typical" community. Rather, the community was chosen because the local health personnel were willing to have their work studied.

¹Based on a paper presented to the 52nd Annual Meeting of the Canadian Public Health Association, Regina, Saskatchewan, June 7, 1961.

²Department of Social and Preventive Medicine, University of Saskatchewan, Saskatoon, Saskatchewan.

Traditionally, Wheatville's economy depended on wheat. The town's economic base has gradually become more diversified and during the past decade, its population has almost doubled in size. Wheatville, and the region surrounding it, are served by several physicians, a small hospital, a public health nurse and a sanitary officer.

Five types of health information have been compiled on Wheatville's population. The sources of this information are: 1. All patients living in Wheatville listed in the records of the two local general practitioners for 1959 and 1960; 2. The records of the public health nurse for 1959 and 1960; 3. Hospitalization data from the Saskatchewan Hospital Service Plan which are available over a period of 15 years; 4. A community survey of a sample of the local population. This survey focussed on social, economic and health trends in the community; and 5. Historical and Dominion Bureau of Statistics census materials.

FINDINGS

Four topics which have implications for public health are analyzed here. These are: (1) the percentage of the population visiting the local physicians and the public health nurse, (2) types of diagnoses seen in Wheatville, (3) a crude measure of the level of health for the population under age 20 and (4) types and amount of reported medical care insurance carried by the population.

1. *Visits to Health Personnel.* Information from the records of the two general practitioners in Wheatville was obtained for 1959-60. By using Saskatchewan Hospital Services Plan information (with a 98.9% coverage of the population) (7-8), it is estimated that these physicians were consulted during this time by 59% of Wheatville's population. In addition, for the same period of time the records of the local public health nurse were surveyed. For both sets of records the percentage of the local population by age visiting either the physicians or the public health nurse was calculated.

As may be seen in Table I, there is an uneven coverage of Wheatville's population, by age, by the local physicians and the public health nurse. As might be expected, the public health nurse devotes most of her time to the younger

TABLE I—PERCENTAGE OF WHEATVILLE
POPULATION VISITING LOCAL DOCTORS AND
PUBLIC HEALTH NURSE: BY AGE CATEGORIES,
1959-1960

Age	Visits	
	M.D.	P.H.N.
	<i>%</i>	<i>%</i>
-1	27	21
1-4	61	81
5-9	41	82
10-14	29	68
15-19	48	30
20-24	89	0
25-34	61	0
35-44	73	0
45-54	54	0
55-64	40	0
65+	33	0

age groups. In contrast, the coverage given by the physicians differs markedly from what might have been expected. Although the majority of the patients seen by the doctors are in the younger age groups, their coverage of both the very young and those over 65 years is not as complete as for those between 20-44 years of age.

2. *Diagnostic Categories.* All the reported cases seen by the physicians in Wheatville during 1959-1960 were classified according to the *Intermediate List of the International Statistical Classification of Diseases, Injuries, and Causes of Death* (9). The diseases were then grouped into major diagnostic categories and the results were compared with those of two other studies (Osler Peterson's study of 88 general practitioners in 1953-1954 in North Carolina (10), and W. P. D. Logan's study of 76 practices and 120 general practitioners from May, 1955, to April, 1956 in Great Britain (11)).

The results in Table II indicate that the practices described differ markedly from one another. If the three diagnostic categories of childbirth, senility and no disease or checkup are considered by themselves, then these account for two-thirds of the Wheatville practice, one-third of the cases studied in North Carolina, and only one-sixth of the patients reported in Logan's study of British general practice. This lack of diversity in the types of cases seen in Wheatville is again observed in the "other" diagnostic category. In North Carolina and Great Britain, the "other" diagnostic category is double the percentage for the Wheatville practice.

TABLE II—PERCENTAGE DISTRIBUTION OF PATIENTS SEEN BY DIAGNOSIS: WHEATVILLE, NORTH CAROLINA¹ AND GREAT BRITAIN²

Diagnostic Category	Wheatville	North Carolina	Great Britain
	%	%	%
Pregnancy and Childbirth	24.9	12.6	3.3
Senility and ill-defined causes	23.3	4.4	10.1
No disease, checkup	18.1	7.1	3.0
Respiratory	7.6	18.2	31.9
Accidents	5.5	8.8	11.4
Genito-urinary	3.7	7.9	5.5
Circulatory	2.2	8.3	7.2
Other	14.7	32.7	27.6
Total	100.0	100.0	100.0

1. Peterson, O. L. *et al.*: An Analytical Study of North Carolina General Practice, 1953-1954, *J. Med. Edu.*, 1956, **31**: pp. 162-165.

2. Logan, W. P. D.: Morbidity Statistics from General Practice, Volume II (Occupation). Her Majesty's Stationery Office, London, 1960, pp. 185-260.

3. *Community Level of Health.* No study of the actual level of health of Wheatville's population was attempted in this survey. A crude index of reported level of health was obtained from the records of the local public health nurse. These records cover 71% of the population under 20 years of age in Wheatville. The records list the nurse's assessment of the health of a patient on selected indices such as teeth, throat, nose, glands, ears, sight and nutrition. For each of

these, it is noted on the record that the patient either had no problem, was to be observed, or was to be referred.

A cumulative index of the number of health problems observed was compiled for each individual. Sixty-seven per cent of the children under age 20 were reported to have no health problems, 29% had one or two health problems, and 4% had three or more health problems.

By comparison of the records of the public health nurse and the local physicians it was apparent that only 32% of the children reported as having local doctors as their family physicians actually visited these doctors in 1959-1960. Of the children seen by the public health nurse who were assessed as having health problems and reported to be served by local doctors 73% did not visit these physicians in 1959-1960.

4. *Medical Care Insurance.* Recently, the efficacy of various systems of pre-paid medical care has been of major interest in Saskatchewan. In Wheatville, local doctors obtain information about the type of medical care insurance which their patients have. Of the total number of patients, 83.2% are not covered by any type of medical care insurance, 5.3% are covered by Medical Services Incorporated, 3.6% by British Pacific Insurance Company, 3.5% by Group Medical Services, 1.9% by old age pension, 1.5% by the Disabled Veteran's Association and Workmen's Compensation, and 1% by mother's allowance, blindness pension and others.

DISCUSSION

The implications of the findings will be discussed under two headings. These are (1) the provision of health services and (2) medical care insurance.

1. *Provision of Health Services.* It is evident from the data that there are gaps in the provision of health services in Wheatville. The majority of the workers from 20 to 54 years are regularly checked by local physicians. The public health nurse examines most of the children under age 20. However, 67% of the population over age 65 were not seen locally by a nurse or a doctor, and 73% of the children who were reported to have health problems did not visit their family doctors.

If these findings pertain to other areas, then several implications stem from these data.

First, it is obvious that selected age groups are not receiving uniform coverage by local health personnel. The problem here is twofold. Physicians and public health nurses should be made aware of the age groups whom they are only partially serving and seek ways in which they may extend their services to these groups. Professional and university refresher courses might give equal attention to this aspect of medical practice as to new therapies and technical procedures. Also, programs of health education should seek to derive effective techniques to induce these reluctant segments of the population to seek medical care regularly.

Another implication which may be derived from the data concerns the concept of the public health team. At the time of this survey in Wheatville only minimal integration of activities was found. The physicians approved of the work of the public health nurse, but referred few patients "under orders" to her. For

her part, the public health nurse frequently urged patients to visit their doctors but on only a few occasions did she contact the doctor herself. According to this public health nurse, "Teamwork works well in textbooks but in practice it doesn't work."

Why is teamwork important? The data presented here partially answer this question by demonstrating the low level of co-ordination of activities between the doctors and the public health nurse in Wheatville.

To the sociologist it appears that health problems of patients may be neglected because of an ethical dilemma which is created in the professional training of doctors and nurses and which is perpetuated in their professional activities. It is sometimes said that "ethical doctors do not advertise their services and ethical nurses do not make appointments for patients with doctors". It would seem that by preserving a patient's right of decision, adherence to those ethics may also preserve a patient's ill-health. In this dilemma practical aspects of teamwork should be evolved so that a patient could at least have the benefit of the medical advice of a physician, and so that early diagnosis might prevent minor ailments from developing into major disorders.

2. *Medical Care Insurance.* In Wheatville, 83.2% of the patients seen by the doctors studied were not insured by any medical care agency. Although this finding is *atypical* for the province as a whole (with an estimated coverage of 67%), the introduction of a universal prepaid medical care scheme by the present Saskatchewan government will have implications for doctors who have practices similar to this one.

The Advisory Planning Committee on Medical Care of the Province of Saskatchewan has not yet submitted its report; however, the present provincial government is committed to provide a universal prepaid medical care program. According to the physicians in Wheatville, this program may increase their gross income by 50% if the present fee schedule is retained. This is because currently these doctors charge frequently below the fees laid down in the Schedule of Fees recommended by the Saskatchewan College of Physicians and Surgeons and because they state they are unable to collect 20% of their bills. Consequently, while not supporting the government, they believe that universal prepaid medical care insurance will increase their incomes and also raise the number of patients who will use their services.

At the time of this survey, information on each patient was frequently limited to only a few entries. It is legitimate to assume that under a universal prepaid medical care program, more complete records will be required. Record evaluation is one means of assessing the quality of medical care given. Thus, the introduction of a medical care program may have at least two results. First, if, as has been frequently contended, the quality of medical care rendered is related to the keeping of records. (12-14), then it may be assumed that the quality of care given in a practice such as Wheatville may improve. Secondly, the maintenance of records for a central recording bureau implies the introduction of outside control, and thus indirectly, an assessment of the reported quality of a doctor's work is feasible and probable. Although such an evaluation might infringe on the doctor's professional rights, potentially, it might raise the quality of medical practice and the general level of health in a community.

SUMMARY

In this paper some of the findings have been outlined of a study of rural general practice in Saskatchewan. This analysis has included the types of diseases seen by doctors, the uneven age distribution of the practice, a crude index of the level of health of children and the amount of medical care insurance carried by the patients.

These findings comprise only a portion of the data which have been collected and in the future, attention will be focussed on other aspects of medical practice in Wheatville.

ACKNOWLEDGEMENT

The writers gratefully acknowledge the invaluable assistance and encouragement given in this survey by the physicians and the public health nurse in Wheatville.

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MUSKOKA HOSPITAL MEMORIAL RESEARCH FUND

Recognizing the need for continuing investigation of unsolved problems of tuberculosis, the National Sanitarium Association has established a fund, comprising the proceeds of the sale of the Muskoka Hospital for Tuberculosis early this year, to be used for research directed towards achieving the original aim of the founders of the National Sanitarium Association, namely, the eradication of tuberculosis in Canada.

A scientific committee has been appointed to advise the National Sanitarium Association on matters of policy relating to the use of this fund, to distribute information regarding the fund, and to receive applications for grants in aid of research. The Muskoka Hospital Memorial Research Fund is to be used, in Canada, principally for the support of research into the basic problems of tuberculosis and of allied fields.

Application forms are available on request to the Secretary, Dr. H. S. Coulthard, at the Association's office, 223 College Street, Toronto 5, Ontario.

Sanitary Modernization in Urban Saskatchewan¹

J. G. SCHAEFFER, M.A.Sc.²

THOSE who are not familiar with urban modernization in Saskatchewan may be surprised to know that a community may incorporate as a village if it has a population of only 100 people. A town status requires a minimum of 500 people and a city 5,000 people. As a result of these low population requirements, we have some 430 legally incorporated towns and villages with a population under 1,000. There are only 45 between 1,000 and 5,000 population and only 11 in excess of 5,000.

This indicates that we have a number of comparatively small autonomous communities but many of which have limited economic resources, because of their size. For most of them, therefore, a modernization program is a major financial undertaking. The indebtedness resulting from the installation of waterworks and sewerage is greater by far than any debt the municipality may have previously incurred.

Health problems increase in proportion to the number of people living in close contact in a community. It is a matter of degree, which varies with numbers. Where does one, or can one, draw the line and say that below this or that number health hazards are of little or no concern, and above a certain number health and sanitation problems are important? Health hazards are undoubtedly reduced in a community which has a public waterworks and sewerage system and such utilities also contribute significantly to public welfare. Welfare cannot be divorced from health. It would seem, therefore, that urban centers, large or small, are a public health concern and a modernization program within the reach of the inhabitants must receive serious consideration.

As well as the financial problem there is in this province a scarcity of suitable water supplies for a public waterworks system. There is an over-abundance of water in the northern half of the province but almost the entire population is in the southern half where there is very little usable surface water. With few exceptions, even where surface water does exist, it cannot be considered as an assured supply because of the normally low precipitation and the occurrence of prolonged periods of drought. The exceptions are the Saskatchewan River with its North and South branches and the Qu'Appelle River. The latter can be considered an assured supply only after completion of the Saskatchewan dam and reservoir. With the completion of these works it will be possible to divert water down the Qu'Appelle to ensure a continuous supply. Ground or subsurface water is equally

¹Presented at the annual meeting of the Canadian Public Health Association, June 6-8, 1961, held in Regina, Sask.

²The Editor records, with deep regret, the death of Mr. Schaeffer on August 9, 1961. Mr. Schaeffer was the Director of the Division of Sanitation, Saskatchewan Department of Public Health.

scarce and much of it is so highly mineralized that it is not usable, or its usefulness is limited. We encounter mostly sulphate waters, high in sodium and magnesium.

The factors of economics and water scarcity account in a large measure, if not entirely, for the fact that we have some twenty urban municipalities operating a public sewerage system without benefit of a waterworks system. This is an unusual and unique situation. Scarcity of water probably also accounts for the fact that all public waterworks systems are municipally owned.

THE MUNICIPAL WATER ASSISTANCE ACT

Because of the difficulties faced by municipalities contemplating a modernization program, the government, a few years ago, explored ways and means of providing assistance. The problem of water supply was first studied and it was suggested that it could be solved only by transmission of water over long distances from assured sources. The survey reports indicated that for the present at least, such a program, although desirable, is economically impractical. Distances between an assured source and a municipality and distances from one municipality to another are too great for the population involved. The reports, however, pointed to the need of a more intensive exploration of ground water potential. This study is now being conducted by the Saskatchewan Research Council and other government agencies.

Following the survey of water potential, the government concluded that a permanent solution to the water supply situation would have to await further study but that something could be done to assist the economic or financial problem faced by municipalities. It therefore instituted a financial assistance program at the 1960 session of the Legislature and passed an Act known as "The Municipal Water Assistance Act". Strangely, provision is made for assisting municipalities in the installation of sewerage systems but there is no financial assistance for the exploration or establishment of water resources. That is still left to each municipality concerned; however, all existing knowledge in the hands of the government relative to ground water is made available to interested municipalities.

The Act, through a special Board, makes provision for a money grant to municipalities. A municipality contemplating the installation of a waterworks or a sewerage system, or both, may apply to the Board for a grant. It is the responsibility of the Board to determine whether or not the applicant is eligible for a grant, and if it is eligible, to determine the amount. As requests by municipalities are numerous and the funds available must fit in with other government spending, the money at the disposal of the Board in any one fiscal year is limited. Consequently, the Board has established a priority system based on such factors as population, number and size of public institutions, particularly hospitals and schools, existing health hazards, etc. Municipalities with a low priority rating are advised to reapply in the following fiscal year at which time their application will be reconsidered.

Calculation of the Grant-in-Aid

There is a specific formula laid down in regulations under the Act for calculating the amount of the grant and establishing whether or not a municipality is

entitled to assistance, regardless of its priority rating. The formula is based on need as applied to the cost to an individual for water and sewer services. A charge considered by the Board to be reasonable for services to individual householders is \$4.00 per month for water and \$2.00 per month for sewer services or sewer rental. Rates for commercial, institutional, and other services are normally higher and are considered to produce sufficient revenue to take care of operating costs of the utilities.

The total cost of a waterworks or a sewerage system is divided into two portions. One consists of the cost of general benefit items such as the water supply, water treatment, water storage, sewage outfall, sewage treatment works, lift stations, etc. These are of benefit to the entire community and the cost cannot be assessed against abutting property. We refer to this portion as the capital cost. The other portion consists of the mains on the streets serving properties abutting thereon. The cost of this portion is charged against abutting property. It is paid by the property owner, either in advance or at a rate per foot of frontage spread over the lifetime of debentures, usually 20 years. This is known as local improvement. The grant is calculated on the capital portion only. It is equal to 80% of the difference, if any, between the capital cost and the sum of money which can be refunded over the debenture period by the revenue obtained from water sales and sewer charges to households, or domestic services. In other words, the revenue is that obtained from the \$4.00 and \$2.00 charges previously mentioned as applied to dwellings. Obviously, the number of dwellings connected to the system is not known in advance, but experience over a period of years has shown that at least 65% of householders with property abutting on a waterworks or a sewerage system make use of the service when the construction of the utility has been completed. Usually the number is closer to 70% and, of course, it increases as time goes on. We base our revenue on the assumption that 65% of households will be connected to the system as soon as construction is completed, or shortly thereafter.

The initial calculated grant is based on estimated costs and may have to be adjusted when the actual costs have been determined. Likewise, there is a limit on the amount of the grant. The maximum is the lesser of \$75,000 per municipality or \$300 for each service connection, domestic or otherwise, installed at the time the contract is completed. If the calculated grant exceeds either of these values the maximum applies.

In the first year of operation, 9 municipalities were assisted, but in the current year the number to date is 21, making a total of 30 in two construction seasons. In addition, of course, some municipalities have proceeded without a grant.

It is anticipated that by the end of this construction season, all except four municipalities above 1,000 population will have waterworks and sewerage, and two of the four exceptions will have a sewerage system only. Of the 430 under 1,000 population, 70 will have either waterworks and sewerage, or one or the other. Most of those with both systems have a population between 400 and 1,000. At the rate of current progress we can expect that within two or three years practically all municipalities in Saskatchewan above 500 population will be fully modernized.

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NEW LEGISLATION RELATING TO NARCOTICS AND CONTROLLED DRUGS

THE control of narcotics in Canada, over the past years, has been highly effective. Addiction resulting from the use of drugs intended for medical supplies has been reduced considerably. Great credit is due to the accomplishments of the Narcotic Control Division of the Department of National Health and Welfare and to officers of the R.C.M. Police who have successfully enforced the Opium and Narcotic Drug Act and Regulations.

At the last session of Parliament, the Opium and Narcotic Drug Act was repealed and the Narcotic Control Act enacted. The new Act deals entirely with the criminal enforcement of all aspects relating to the illicit traffic in narcotics. Authority to control the legal distribution of narcotics is provided in Regulations. Few changes in the standards of control were made in the Act, the most important one being more stringent penalties for trafficking in narcotics.

It has been known for some time that in certain areas of Canada, barbiturates and amphetamines have been subject to abuse. Trafficking in "goofballs", "yellow jackets" and "pinkies" has existed. Additionally, laxness occurred at all levels on the part of those entrusted with medical supplies of these drugs. As a consequence and at the last session of Parliament, amendments to the Food and Drugs Act were passed. This legislation, known as Part III of the Food and Drugs Act, came into force on September 15, 1961.

The group of drugs covered by the amendments to the Act will be designated as controlled drugs and are set forth in Schedule G. The Schedule includes: amphetamine and its salts, barbituric acid and its salts and derivatives, methamphetamine and its salts.

As with narcotics, the Act respecting Controlled Drugs deals chiefly with the illicit traffic in these drugs. Stringent penalties (up to ten years imprisonment) have been provided for anyone convicted of trafficking in controlled drugs or who is in possession of these drugs for the purpose of trafficking.

The new legislation, insofar as it affects the control and legal distribution of controlled drugs will be administered and enforced by the Narcotic Control

Division, now a separate division in the Food and Drugs Directorate. Questions relating to the administration or enforcement of any aspects of the Controlled Drug Regulations should be addressed to Mr. R. C. Hammond, Chief of the Narcotic Control Division.

It is anticipated that the controls now in force with respect to both narcotics and controlled drugs will result in a high standard of drug control in Canada.

EIGHTY-NINTH MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

DETROIT was the center of continent-wide public health interest during the week of November 13. The eighty-ninth annual meeting of the American Public Health Association was held in Detroit, Michigan with an enrolment of more than 5,000. As in the past, more than forty related organizations in the field of public health joined with the American Public Health Association, making it possible for members of the Association to attend conveniently the meetings of several other agencies of particular interest to them.

The meetings were held in Cobo Hall which merits fully the claim of being the largest and most modern convention hall on the continent.

The central thought of the meeting was expressed by Marion W. Sheahan, Deputy General Director of the National League of Nursing, in her presidential address *Needed—Reorganization for Health*. "The task before us in these next decades is to bring the seemingly separated segments of comprehensive medical care together through an organization of resources to the end they are readily available to people. Medical care encompasses health preservation, prevention of disease, diagnosis and treatment, and rehabilitation. It is at the community level where the services must be provided. Such leadership is needed now to bear on the problem of pulling the fragments together to provide the kind of health services needed to make the facilities as available as possible to the people who need them."

The American Public Health Association, in co-operation with the National Health Council and the Public Health Service, is moving ahead to establish a national commission on community health services. Tentatively, the commission's time chart provides the first two years for fact finding, the third for evaluation and analysis, and the fourth and fifth for the beginning of implementation of the recommendations.

This theme was presented also by Dr. Leona Baumgartner, Commissioner of Health, New York City, speaking on the role of the health officer in comprehensive medical care and centering the thought on the leadership which the health officer can give in bringing about an integration of health care services.

Dr. Luther L. Terry, Surgeon-General, Public Health Service, contributed also to this subject, quoting words of Dr. Baumgartner: "American health services today are indeed a many-splintered thing." He asked: "How shall we weld our many-splintered services into a many-splendoured whole?"

Honour was paid to Dr. Frank G. Boudreau in being the recipient of the Sedgwick Memorial Medal. Dr. Boudreau is internationally known for his leadership in public health.

This year the Association inaugurated the Bronfman Prize for Public Health Achievement. These awards follow the Albert and Mary Lasker Foundation Award for Medical Research and Public Health which had been granted over the previous fifteen years. The purpose of the Bronfman Prize is to honour current creative work of particular effectiveness in applying newer scientific knowledge to the betterment of community health. The awards were presented to Dr. Marcolino G. Candeau, Director-General of the World Health Organization, Dr. James E. Perkins, Managing Director of the National Tuberculosis Association, and to Dr. James Watt, Director of the Division of International Health, U.S. Public Health Service. In this way international health, a voluntary organization, and a U.S. government agency were honoured.

The American Public Health Association is truly continental in its membership and Dr. John Howie, medical officer of health of Windsor, Ontario, a vice-president of the Association for this year, shared in the planning of this outstanding meeting.

CONTINUING POSTGRADUATE EDUCATION

The value of "refresher" courses for public health personnel is being recognized more and more as scientific knowledge rapidly expands and new programs are developed. The schools of hygiene in the Universities of Toronto and Montreal have not neglected the interest of those who are engaged in conducting our public health programs in Canada. In the University of Toronto, the School of Hygiene has provided a course during each of the past four years.

This year the course will be given during the first week of February and will extend over five days. It is planned as a conference on infectious diseases. The first day will be devoted to infections in hospitals, the second to tuberculosis—diagnosis and treatment, the third to the etiology of diarrhoea in children, the fourth to virus infections, and the final day will be utilized for demonstrations and films.

Courses in the past have been planned primarily for physicians. It is pleasing that this course has been designed for physicians, veterinarians, senior nursing staff, and medical laboratory personnel.

The provision of this course and other courses are steps in the right direction and will be observed with great interest by all who are concerned with public health services.

Tuberculosis Control

A TUBERCULOSIS OUTBREAK IN A PUBLIC SCHOOL

C. D. FARQUHARSON,¹ M.D., MRS. JEAN DEEKS,² REG.N. and
MRS. AUDREY HALPENNY,³ REG.N.

PULMONARY tuberculosis of the adult type is rare in public school children, but needs to be considered in diagnosis when a pupil is found to be chronically ill.

The following is an account of a schoolboy who was an open case of tuberculosis and of the subsequent transmission of the disease to his classmates, 35 in number, all of whom showed positive tuberculin tests.

James W., age 13 years, was a pale, sickly child in grade VI. He was short of breath and coughed so severely that sometimes he vomited, but his parents refused to have him seen by a physician in spite of the advice given by both the teachers and the public health nurse. Finally, he collapsed in school with weakness and was taken to an out-patient clinic for examination. He was found to have advanced pulmonary tuberculosis, with cavities in both lungs and sputum positive for acid-fast bacilli. In sanatorium he was considered to be dangerously ill and was kept there for two years. On discharge his sputum was negative but the cavities were not closed and he was short of breath from loss of lung tissue. For the next two years he remained at home on drug therapy and his education was carried on with extra-mural teaching. Now, at 17 years of age, he is crippled with severe loss of lung tissue and the Rehabilitation Department of the Province of Ontario is attempting to enable him to earn a living. His cavities are not closed but his sputum remains negative while he takes the drugs.

Investigation of Contacts

Chest X-rays of the 35 children were done immediately and showed that two had active disease of the primary type and needed sanatorium treatment.

Both were treated in sanatorium for approximately a year and later discharged as cured.

Tuberculin tests showed that all the children in his class were positive reactors.

Long Term Observation

All of the positive reactors were advised to have regular chest X-ray examinations at the Gage Institute Clinic, and in 1961, at the end of four years, a girl of 15 was found to have active pulmonary tuberculosis, with a small cavity. She was admitted to sanatorium. On looking up her record, it was found that she had gone to school in another municipality and had missed the chest X-ray examination which she should have received in 1960.

SUMMARY

A boy of 13 years of age in grade VI of a public school was found to be suffering from pulmonary tuberculosis with cavities in both lungs and positive sputum. He was in sanatorium for two years, at home with extra-mural teaching for two years, and is now partially crippled, with cavities not closed and with loss of lung tissue. Two of his classmates were found to have active primary disease and were in sanatorium for approximately one year. A third, four years later, was found to have pulmonary tuberculosis with a cavity and is still in hospital.

¹Medical Officer of Health.

²Director of Public Health Nursing.

³Public Health Nurse, Township of Scarborough.

Association News

Membership

The Association's by-laws state that the annual fee for Active and Associate Membership respectively shall be payable at the time of application and annually thereafter *in advance, during the month of December each year*. Annual dues for 1962 are now due.

The Canadian Public Health Association and its eight branches, divisions, or affiliated associations need the continued support of all members and urge them to obtain new members with the aim of having all public health workers in Canada actively support the Association and enable it to be, effectively, the voice of Canadian public health workers.

The past year has been one of increased activity and progress for the Association. Successful provincial, regional, and national meetings have been held. The Consultant Advisory Service in Public Health Administration has been established and two projects have been undertaken. A preliminary statement has been made to the Royal Commission on Health Services and a brief is being prepared for presentation to the Commission. In addition to the national brief three provincial associations are preparing briefs. A new development was a successful mid-year meeting last month of the Executive Council which was attended by delegates from across Canada.

Elsewhere in this issue are listed the fees for joint membership in your provincial association and the Canadian Public Health Association, and the addresses of the provincial association treasurers. A membership form is also provided. Please return the completed form this month, with your 1962 dues.

British Columbia

The executive and members of the British Columbia Branch have been actively engaged in the preparation of material for a brief to be submitted to the Royal Commission on Health Services in Canada.

Saskatchewan

The Saskatchewan Branch will hold its 1962 annual meeting on April 24 and 25 in Regina. Plans are under way to develop a high caliber scientific program and pleasant social events. Mr. Wm. Kempa, 1900 McIntyre Street, Regina, is the program chairman. Suggestions about the program should be directed to him.

Dr. Alexander Robertson and Dr. Robert Bradley were the Saskatchewan Branch delegates to the Executive Council meeting of the C.P.H.A. held in Toronto on November 18.

The Saskatchewan Branch is preparing a brief to the Royal Commission on Health Services. Hearings will be held in Saskatchewan, January 22-26.

The Saskatchewan Branch membership drive will open January 1, 1962. Forms have been sent to all 1961 members and to all public health workers in Saskatchewan who are not now members of the Branch. Paid-up memberships for 1961 number 248.

Manitoba

Mr. R. E. Wendeborn, Director of the Bureau of Health Education, was elected President of the Manitoba Public Health Association at the semi-annual meeting held October 3. Other officers elected include: 1st Vice-president, Miss Mary Wilson; 2nd Vice-president, Dr. W. French; Treasurer, Mr. Jim Warren; Secretary, Miss Margaret Warren.

News Notes

International

The Canadian delegation to the September 1961 meeting of the U.N. Scientific Committee on the Effects of Atomic Radiation consisted of Dr. E. A. Watkinson, principal medical officer, Environmental Health and Special Projects, and Dr. F. D. Sowby,

senior medical officer of the Radiation Protection Division of the Department of National Health and Welfare, as well as Dr. W. E. Grummitt and Dr. H. B. Newcombe of Atomic Energy of Canada, Limited.

Dr. L. B. Pett, principal medical officer,

Research and Development, and Dr. J. E. Monagle, chief, Nutrition Division, Department of National Health and Welfare, formed part of the Canadian delegation attending the Eleventh Conference of the Food and Agriculture Organization held at Rome, October 29 to November 10.

Federal

H. R. McLaren, D.D.S., D.D.P.H., Principal Dental Officer, Indian and Northern Health Services, Department of National Health and Welfare, was recently appointed an Honorary Dental Surgeon to Her Majesty, Queen Elizabeth II.

Miss Margaret D. McLean has been appointed to the position of Nursing Consultant on the advisory staff of the Hospital Insurance Administration of the Department of National Health and Welfare.

British Columbia

Among the reports submitted at the semi-annual Health Officers' Council at Victoria this Fall was one covering surveys on the question of polio immunization consent in the three health units of Selkirk, North Fraser and Saanich. Objectives of the surveys were to determine the polio vaccination status of the adults in these areas; why some adults are not vaccinated and whether some simple program changes might be made to increase the acceptance rate.

The overall adult vaccination status was quite low, averaging about 31%; the majority of persons under 40 in the sample were vaccinated, having received three or more injections; of the unvaccinated persons, the majority are over 40; vaccination status of adults is unaffected by the vaccination status of children in the home; reasons for non-vaccination are first, "too old" and second, "procrastination"; included in those giving the "too old" reason are those believing that polio is a child's disease and that vaccine is available only to those under 40.

The Metropolitan Health Committee of Greater Vancouver celebrated its twenty-fifth anniversary at a luncheon on October 27, to which past and present members of the Committee and staff were invited. Guest speaker was Dr. G. F. Amyot, British Columbia's Deputy Minister of Health and author of the original Metropolitan Health agreement in 1936.

The fourth of a series of food management courses is being presented in the night-school program of the Vancouver School Board. Developed three years ago by the Director of Environmental Sanitation of the

Metropolitan Health Committee, the sessions are made up of eight two-hour periods. The instruction is designed to show that in a food establishment, health problems are of equal importance to those of a purely business nature, and that they require the full attention of management. The courses have been well received by operators of such premises, and it is intended that they will continue.

The Village of Princeton celebrated the opening of its new \$20,000 health center on October 19. With 2,000 square feet of space, the new building and its facilities are a welcome addition to the public health services of the community and surrounding area. In addition to grants from the Federal and provincial governments and the Village, financial aid was forthcoming from the B.C. Tuberculosis Society, the Canadian Cancer Society (B.C. Division) and the B.C. Poliomyelitis and Rehabilitation Foundation.

During the latter part of October, the Provincial Health Branch had an interested visitor from Australia in Mr. Walter J. Madgwick, Chief Food and Drug Inspector of the New South Wales Department of Health. Mr. Madgwick, who hails from Sydney, is one of two Australian recipients of a W.H.O. grant for 1961, which has provided for a nine month tour of leading centers in the United States and Canada.

Staff Changes:

Mr. Paul Nerland has resigned as personnel officer with the Provincial Health Branch at Vancouver. Mr. Nerland has accepted an appointment as program supervisor with the Department of Continuing Medical Education, University of British Columbia.

Alberta

The Annual Health Unit Conference was held in the Provincial Department of Public Health, Edmonton, from October 30 to November 1. Each health unit was invited to send its chairman or one board member, its medical officer of health and its secretary-treasurer. An invitation was also extended to the medical officers of health of the cities of Edmonton and Calgary. There was an excellent attendance and a very full agenda covering many facets of public health practice and administration. Resolutions of considerable significance were passed for submission to the Hon. Dr. J. Donovan Ross, Minister of Health.

A conference of dental officers from health units and city health departments was held at the University of Alberta on October 30, 31.

Several fluoridation plebiscites were held in conjunction with the recent municipal elections, and three towns succeeded in obtaining the necessary two-thirds majority: Athabasca, Coaldale, and St. Albert. The plebiscites in Edmonton and Calgary were unsuccessful, and these cities must now wait two years before another vote can be taken.

Staff Changes:

Dr. L. W. Mackey has resigned his appointment as medical officer of health with the Athabasca Health Unit and has left for a position in New Mexico.

Saskatchewan

The Regional Health Services Branch of the Department of Public Health held its three-day fall senior staff conference in Regina recently. Dr. M. S. Acker, branch director, was chairman. In plenary sessions a wide range of topics was discussed, including the following: a progress report on epidemiology, epidemiological opportunities for health officers, control of streptococcal infections in schools, school health and other health services in Europe, report on the Dominion-Provincial Child and National Health Conference, report on the Dominion-Provincial Nutrition Conference, organization of children's dental services, and medical care developments. Public health nurses, health educators, nutritionists, medical health officers, educational psychologists, and sanitarians met also in separate group sessions.

A world-recognized expert in the field of geriatrics, Dr. L. Z. Cosin of England recently visited Regina where he advised the newly formed steering committee which is studying the possibility of building a geriatric center for the city.

Miss Dulcie McDonald, Miss Betty Lou Trimmer and Miss Marjorie Clark, public health nurses on the staff of Regina Rural Health Region, have each been granted a bursary and leave of absence for one year's study in public health at the University of Saskatchewan. This study is part of the in-service education program.

A new award, to be known as the Lieutenant Governor's Citation, will be presented each year to employers in Saskatchewan who have made an outstanding contribution to rehabilitation by employing disabled persons in their plants and offices. It will mark the first time in Canada that employers have been given recognition for their work in this field. Selection of award-winning employers may be made from any trade, business or profession.

Manitoba

Dr. M. R. Elliott, Deputy Minister of Health, is now convalescing, following surgery.

A month long mass TB survey was started in St. Boniface in late October. It is believed to be one of the largest surveys ever conducted in one area of Manitoba. The survey covered a total population of approximately 37,000, involved 2,000 volunteer workers and personal contact with 13,000 families. The survey was widely publicized through the press, radio, and T.V. Dr. W. French, medical director of the St. Boniface Health Unit, and Jim Zayschley of the Sanatorium Board of Manitoba were actively associated with the campaign.

Mr. Wilf Arnett, sanitary inspector in the Brandon area, was honoured recently by the Canadian Institute of Sanitary Inspectors, being presented with life membership in the Association. The award was in recognition of Mr. Arnett's service to the Association for 27 years and the deep regard in which he is held by his associates.

Mrs. Margaret Mackling, a past president of the Manitoba Public Health Association, has been appointed District Director of the Winnipeg Branch of the Victorian Order of Nurses.

Staff Changes:

Miss Winnifred Barratt has retired, due to ill health, as Registrar Consultant for Licensed Practical Nurses, a position which she has held with the Provincial Government for nearly 30 years.

Mrs. Lara Khairat, formerly supervisor of Health Unit No. 1 in Metropolitan Vancouver, has assumed the position of Registrar Consultant of Licensed Practical Nurses for the province of Manitoba.

Quebec

Dr. Ad. Groulx, Director of the Department of Health of the City of Montreal and Assistant Dean of the School of Public Health of the University of Montreal, was recently elected Fellow of the Royal Society of Arts, London, England.

Nova Scotia

Public health personnel were invited to attend an institute on hospital school improvement held by Miss Rens Rowsell of the Canadian Nurses' Association staff of Ottawa.

Dr. Gordon H. Hatcher, D.P.H., has been appointed Professor of Preventive Medicine and Public Health, Faculty of Medicine,

Dalhousie University, succeeding Dr. Chester Stewart, Dean of the Faculty, who has occupied this chair for some years. For several years Dr. Hatcher has been engaged in studies of the occurrence of chronic illness and of problems of medical rehabilitation and has been a senior member of the Department of Medicine of the University of Miami.

Staff Change

Mrs. Evelyn Williams, formerly staff nurse with the Atlantic Health Unit, has resigned to take a position in Ontario.

Newfoundland

The Minister of Health, Honourable Dr. James McGrath, announced on October 16 that Dr. A. P. H. Randle, a United Kingdom specialist in rehabilitation, has accepted an

invitation from the Department of Health to make a survey of the rehabilitation needs in Newfoundland. Last year, Dr. Randle organized a course on rehabilitation for Fellows of the World Health Organization. He has acquired considerable knowledge of the varying needs and differing patterns of the rehabilitation services in many countries throughout the world. Dr. Randle, who arrived in St. John's in October from London, England, kindly offered his services free of charge.

In commenting on Dr. Randle's visit, Mr. C. A. Pippy, President of the Rehabilitation Council, said that the advice and counsel which Dr. Randle will give from his profound knowledge and experience will be most beneficial in seeking a solution to the tremendous problems that lie ahead.

Books and Reports

COMPARATIVE EPIDEMIOLOGY OF THE MENTAL DISORDERS. *Editors:*

Paul H. Hoch, M.D. and Joseph Zubin, Ph.D. Grune and Stratton. 1961. 290 pp. \$9.75.

All public health workers interested in the problem of mental illness in their communities should find this book fascinating. It is a report of the proceedings of the Forty-Ninth Annual Meeting of the American Psychopathological Association held in February, 1959. The epidemiological approach used with such profit in the field of infectious diseases has been extended in recent years to include many diseases of a non-infectious nature. In this volume experts from Scandinavia, Germany, Great Britain and the United States give us examples of the tool of epidemiology used in connection with the problem of mental health and mental illness in their various countries.

Of particular interest to Canadians is a brief review of the "Stirling County Study" carried out recently by a Cornell University group in the province of Nova Scotia, on the effect of sociocultural factors on the origin, course and outcome of psychiatric disorders. They report twice the rate of serious psychiatric disorders in what is termed "disintegrated" communities compared with that found in "integrated" communities.

Other papers include the study of incidence and prevalence of hospitalized mental disorders, prognosis and outcome, heredity and prenatal factors.

The implications for preventive medicine

are obvious. Here we are shown a most encouraging approach to the solution of some of the etiological mysteries of mental disorders. It is an approach which should bring the fields of psychiatry and public health much closer together.

FIELD STUDIES IN THE MENTAL DISORDERS. *Editor Joseph Zubin, Ph.D.*

Grune and Stratton, 1961, 495 pp., \$6.75.

This volume represents the proceedings of the work conference on problems in field studies of the mental disorders, held under the auspices of the American Psychopathological Association, February 1959. Thirty-eight participants took part in the conference, several of them from outside the United States, and they represented not only the viewpoint of psychiatry but also of genetics, sociology, pharmacology, epidemiology, and public health administration.

The first day was devoted to the problems of taxonomy and their application to nosology and nomenclature in the mental disorders. A plea was made for a universally acceptable classification, possibly one with a low common denominator. The second day was spent on problems in defining units of study and variables in field investigations. On the third day the problem of comparability in field investigations and the usefulness of morbidity surveys were discussed. The last day was devoted to summaries of the conference as seen from the viewpoint of the nine various disciplines represented.

There is much in this volume for public health personnel concerned with the validity and usefulness of psychiatric concepts as related to the community.

MICROTECHNIQUES OF CLINICAL CHEMISTRY. *Second Edition. Samuel Natelson, Sc.M., Ph.D. Ryerson Press, Toronto, 1961, 578 pp., \$16.25.*

In recent years there has been a trend towards the use of smaller aliquots for routine clinical chemical assay. The first edition of this book appeared in 1957 and in this, the second edition, the material has been expanded to cover the procedures for the analysis of over 130 different substances. To the original section on methods for obtaining the physical properties of biological fluids, has been added a section on the determination of osmotic pressure by freezing point depression. The sections on absorption spectrophotometry and statistical evaluation of data have been expanded. Sections have also been added on emission spectroscopy, automation, gas chromatography, the theory and technique of the urea and creatinine clearance tests and current ideas of the mechanism of blood coagulation. Recent references are given at the end of each method, illustrating representative procedures. The book also contains the preface to "Chemical procedures in correlation of clinical and chemical observations in the immature infant", by Natelson, Crawford and Munsey.

The text is amply illustrated and comprehensive author and subject indices are given. This is a very practical book and should serve well as the text for a course in analytical clinical chemistry. It will prove most useful to those interested in clinical chemistry as well as to those concerned with the chemistry of the smaller animals.

WASTE DISPOSAL IN THE MARINE ENVIRONMENT. *E. A. Pearson, Editor. Pergamon Press Inc., New York 22, N.Y., 1960, 569 pp., \$12.50.*

This volume contains the complete texts of papers which were presented at the First International Conference on Waste Disposal in the Marine Environment, held at the University of California in July, 1959. The papers are presented under the following headings: Public health, Effects of marine biota, Design considerations, Nearshore Oceanography, Receiving water analyses, Estuarine hydrography.

The marine environment is becoming increasingly important for the disposal of the waste products of our industrial civilization, but it must not be forgotten that the oceans contain many different kinds of resources, some of which may be seriously diminished in usefulness by the indiscriminate dumping of wastes. The papers presented at this conference by a number of well known authorities cover a very wide range of topics, however they have one thing in common, that of alleviating the hazards, real and apparent, which arise as a result of the dumping of wastes of various types into the sea. The program committee of the conference has omitted the subject of marine disposal of radioactive wastes as it is planned to deal with this at a later conference.

This book reflects current thought on the problems of the marine disposal of wastes, and as such, it is both stimulating and refreshing as well as providing a useful addition to our knowledge of this subject.

CARDIACS AND DIABETICS IN INDUSTRY. *Grace Wyshak, S.M. in Hygiene, Leonid S. Snegireff, M.D., Dr. P.H., Augusta F. Law, M.D., M.P.H., Ryerson Press, Toronto, 1961, 260 pp., \$11.75.*

This book summarizes a study comparing the work experience of 709 persons with cardiovascular disease or diabetes with that of 709 matched controls who were free from these diseases. The subjects were engaged in a variety of occupations associated with different grades of muscular work. The work experience included such factors as absence experience, utilization of medical department facilities, sick benefits and Workmen's Compensation. The results obtained from this study indicate that although persons with cardiovascular disease or diabetes tend to lose more time from work than do comparable controls, many "cardiacs" compared favourably with "non-cardiacs" and many older persons compared favourably with their younger counterparts. It was also found that careful medical evaluation and selective job placement are important factors in the reduction of absenteeism.

Prior to this study, little had been done to compare objectively the work performance of groups of persons with cardiovascular disease or diabetes with that of similar groups free from these diseases. This book, therefore, makes a valuable contribution to our knowledge on this very important subject and re-emphasizes the fact that people with cardiovascular disease or diabetes, can work, and should work.

A MANUAL FOR NUCLEAR MEDICINE. E. R. King and T. G. Mitchell. Ryerson Press, Toronto. 1961, 406 pp., \$14.75.

This manual is intended as a laboratory guide for students studying radioisotope procedures in medicine, as well as for the practitioner. The text contains the latest techniques of clinical isotope procedures including a discussion on radioisotope therapy. It contains a series of basic clinical physics exercises which are worked out in detail and are self-explanatory. The techniques and experiments described in this manual have been tested and applied at the National Naval Medical Centre, Bethesda, Maryland. The manual contains 28 chapters together with suggested references which provide an adequate background for the material presented to the reader. There are also appendices on fundamental physical constants and conversion factors and on dosimetry. There are both author and subject indices.

This book is invaluable for all who are concerned with the use and administration of radioisotopes and provides a welcome addition to the current literature on the subject.

RADIOBIOLOGY. Edited by P. L. T. Ilbrey, Butterworth & Co. (Canada) Ltd. Toronto. 1961, 314 pp., \$11.

This volume constitutes the Proceedings of the Third Australasian Conference on Radiobiology, held at the University, Sydney, August, 1960. It contains 29 papers by an international group of participants. The topics covered include the effects of radiation at subcellular levels, haemopoietic homografts, and the preservation of viable bone marrow by freezing. A number of papers are concerned with radiation induced carcinogenesis and the use of radiomimetic substances.

There are also chapters on strontium-90 determinations and the delayed effects of radiation on seeds.

The papers presented to this conference indicate the importance of radiobiology in our everyday life. Not only is it the basis of medical radiology but it is also concerned with the pressing needs for the assessment of the hazards of nuclear and other radiations which make up one of the major public health problems at the present time. The book is amply illustrated and each chapter is followed by a list of references and, in some instances, by a printed discussion of the paper in question.

TOWARD THE CONQUEST OF BERIBERI. Robert R. Williams. S. J. Reginald Saunders and Co. Ltd., Toronto. 1961, 338 pp., \$8.25.

Dr. Williams began working in 1919 on the isolation of the vitamin that he later named thiamine. Through a tremendous amount of work he not only isolated the vitamin but was successful in synthesizing it.

In this book he traces the history of the disease beriberi and of the studies that culminated in the commercial production of thiamine on a large scale. He discusses the enrichment of refined foodstuffs with vitamins and endorses such enrichment as the most practical way of preventing beriberi in countries of high rice consumption.

STRESS AND YOUR HEART. Fred Kerner. McClelland & Stewart Limited, Toronto. 1961, 237 pp., \$4.95.

This is a simplified layman's account of Hans Selye's theories on the effects of stress on the heart. The author enthusiastically adopts the very controversial opinion that certain types of emotional stress are major factors in the genesis of coronary atherosclerosis and gives advice on the avoidance of such stresses.

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Q: Can Heinz Baby Foods be used in a Milk Substitute Diet?

A: Yes. Heinz Beef Heart and Heinz Strained Chicken can be used in a diet for a baby allergic to milk. A Milk Substitute Strained Meat Formula can be obtained on application to the Professional Services Department, Heinz Baby Foods, Leamington, Ontario.

Q: What is a protein derivative and why is it added to Heinz Baby Foods?

A: A protein derivative is a derivative of the protein molecule, apparently formed through hydrolytic changes. Protein derivative is added to the Junior Chicken Rice Dinner to bring the protein equivalent up to the same level as that contained naturally in other Junior Dinners.

Q: Why is Yeast Concentrate added to some Heinz Baby Foods?

A: The Heinz Baby Foods which contain Yeast Concentrate supply an additional quotient of B Vitamins to a baby's blood. This is particularly valuable where the baby is, or inclined to be, anaemic.

Q: What is the value of Dicalcium Phosphate in Heinz Baby Cereals?

A: Calcium and phosphorus—along

with Vitamin D—are essential in a baby's diet for building strong bones and teeth. A baby deprived of a sufficiency of these valuable minerals is susceptible to rickets or other calcium-deficiency diseases.

Q: What was the reason for the introduction of Heinz newest Baby Food—Cottage Cheese with Pineapple?

A: Cottage Cheese with Pineapple was developed in the Heinz kitchens in response to a demand from many doctors for a baby food incorporating skimmed milk. For babies on a low fat diet, and for babies suffering from obesity and on a low calorie diet, Heinz Cottage Cheese with Pineapple has been proved an excellent, nutritious and tasty addition to their meals.

Q: Do Heinz prepare Baby Food Literature in languages other than English?

A: Yes. Heinz informative booklet on Baby Foods, entitled "Your Baby's Diet" is available in French, German, Italian and Hungarian.

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• Provides selective ganglionic blocking and curariform properties • Exhibits none of the CNS effects of belladonna alkaloids

BUSCOPAN blocks smooth muscle spasm wherever it occurs in the gastrointestinal, biliary, urinary, or genital tract. Its spasmolytic action is potent and selective. With a minimum of side effects, BUSCOPAN decreases hypermotility...relieves pain.

BUSCOPAN is highly effective in the treatment of gastric and duodenal ulcers, gastritis, cardiospasm, mucous colitis, spasm associated with various types of malignancy, and spastic constipation.¹⁻⁵ Functional biliary disorders associated with cholelithiasis, cholecystitis, cholangitis and pancreatitis also respond well to BUSCOPAN.¹⁻⁴ Moreover, this agent has proved useful in the management of smooth muscle spasm associated with disorders of the genitourinary tract,^{3,6} including dysmenorrhea.^{3,7,8}

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Recommended dosage: 10 to 20 mg. (1 to 2 tablets) has been found to be the average single effective dose; however, dosage may be increased in acute conditions where pain is severe. A dose of 10 mg. three to five times a day is recommended for prolonged conditions such as peptic ulcer. **Supplied:** BUSCOPAN Tablets, 10 mg.—bottles of 100.

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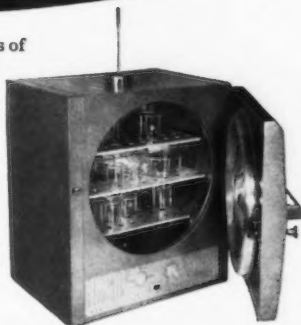
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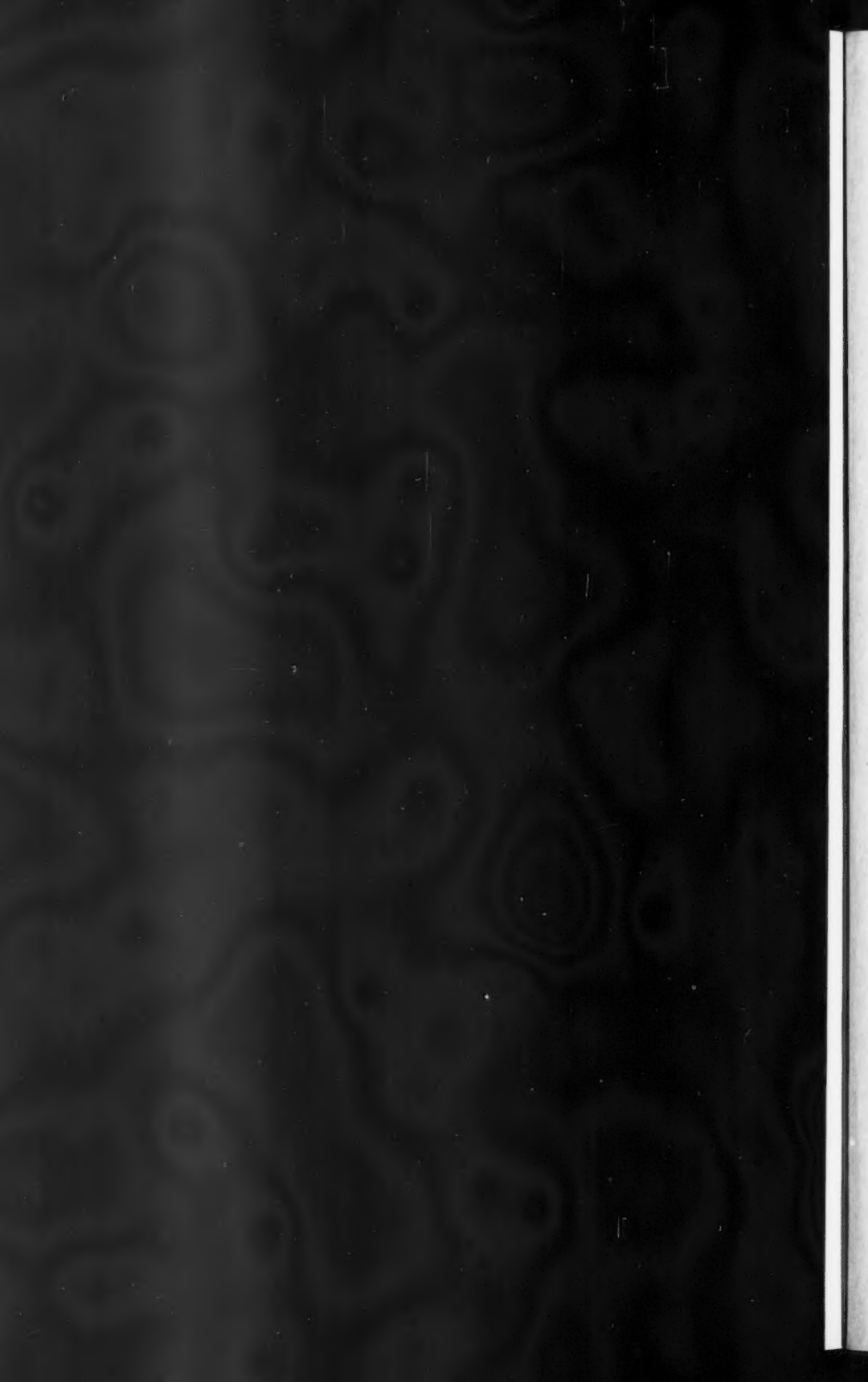
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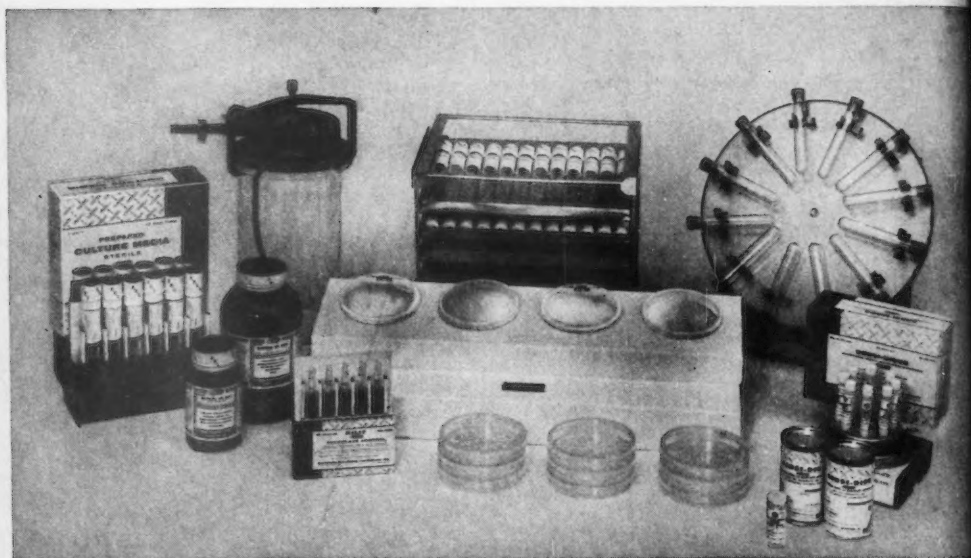
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